

Pacific University
CommonKnowledge

Volume 8 (2008)

Interface: The Journal of Education, Community
and Values

11-1-2008

Seeing Beyond The Grand Illusion

Steve Rhine
Willamette University

Follow this and additional works at: <http://commons.pacificu.edu/inter08>

Recommended Citation

Rhine, S. (2009). Seeing Beyond The Grand Illusion. In J. Barlow (ed.). *Interface: The Journal of Education, Community and Values* (vol. 8. pp.273-279). Forest Grove, OR: The Berglund Center for Internet Studies. (Original work published online in 2008).

This Article is brought to you for free and open access by the Interface: The Journal of Education, Community and Values at CommonKnowledge. It has been accepted for inclusion in Volume 8 (2008) by an authorized administrator of CommonKnowledge. For more information, please contact CommonKnowledge@pacificu.edu.

Seeing Beyond The Grand Illusion

Rights

Terms of use for work posted in CommonKnowledge.

Seeing Beyond The Grand Illusion

by Steve Rhine, Ed.D.
Willamette University



In 2003, Larry Cuban warned us that computers have been *Oversold and Underused* [1]. In his experience in schools in the Silicon Valley, he found computers either not being used or being used as advanced typewriters. Clifford Stoll urged us to reconsider our growing addiction to the Internet, arguing in *Silicon Snake Oil* (1996) [2] that the Internet cannot provide a richer or better life. He opened that book with a comparison of "exploring" a virtual cave with a software program and his fearful, memorable experience trudging through the mud and darkness of a real cave. In *High Tech Heretic* (2000) [3] Stoll contended that we need to consider the costs of technology along with the benefits. Students are already overwhelmed with information. What they need is the critical analysis required for learning. Each of these authors question the grand illusion that technology is benefiting learning. However, each believes that there *are* potential benefits of technology that we have not consistently accessed in schools.

In my own experience visiting middle and elementary schools, I've seen computer "learning centers" in which students play "educational games." In my article, "Exorcising the Edutainment Curse" for the journal *TechLearning* (1997), [4] I lamented the use of computers in classrooms for edutainment—the illusion of learning while having fun. Programs such as *Living Books'* "Just Grandma and Me" is a perfect example of parents and teachers hoping that reading skills are being developed while students mindlessly click on trees so squirrels run around. "Lacking significant staff development, it is no wonder that teachers' use of technology often diminishes to what is easiest to do with technology: Sit students in front of the computer and let them play. Hence, the edutainment curse is from programs that make technology easily usable and fun while not maximizing the power of computers as learning tools. Exorcising this curse will take recognition of technology's possibilities and training to make them happen."

This spring the National Education Association (NEA) and American Federation of Teachers (AFT) published the report "Access, Adequacy, and Equity in Education Technology," [5] indicating that we haven't made much progress in using technology to its potential in the decade since I wrote that article. There are some intriguing findings in the report that suggest confusing dichotomies. Urban teachers were less likely to use computers than suburban or rural teachers, while they were strongest in their belief that computers could positively impact student learning, likely due to the fact that they believed they had less adequate equipment, software, and support. Elementary teachers had more computers in the classroom than their counterparts in higher grades, but used computers less for instructional purposes. Middle and secondary teachers had students use the internet in labs and libraries more, particularly for research, yet they also believed that over use of information on the Internet caused the quality of student research to decline and that they did not have sufficient access to technology to do their jobs effectively. While new educators were more likely to integrate technology into their instruction, they were most likely to believe they were inadequately prepared to use the Internet for research or integrate technology into their instruction. Access and training are key issues all around.

However, while less than one-third (32 percent) of teachers used technology for instruction "at least a few times a week," [6] teachers continue to be "highly optimistic about the impact of technology on their jobs and on their students, and they considered technology essential to teaching and learning." [7] Ninety-five percent of teachers believed that technology could improve students' learning. Perhaps in agreement with Cuban, Stoll, and others, we, as educators, continue to hang on to the belief that technology's promise is just around the corner, but we are not realizing that promise.

So, where do we go from here?

One direction is suggested in Steven Jones' book *Against Technology: From the Luddites to Neo-Luddism*. [8] In the book Jones tells the history of the "Luddites" who followed the inspiration of Ned Ludd in smashing the new machinery of the British textile industry. Some might say they were just fearful and stubbornly resisting progress. Others may say they were trying to preserve a way of life they valued, which was being threatened. As I implore my son to get off the Internet and go outside or plead with my daughter to unplug herself from her iPod so we can chat, I can appreciate the sentiments that lead to wanting to rage against the machine. However, I have seen students get excited about learning, develop understanding of concepts in ways that were impossible previously, and create multiple representations of ideas that inspire new meaning. I've seen glimmers of that promise.

So, how do we move beyond that elusive illusion and capture the potential? Two roads diverge in the woods.

With the advent of No Child Left Behind (NCLB) in 2002, government funding for technology in schools ended for programs such as "Preparing Tomorrow's Teachers to use Technology" and moved into improving school testing and data-analysis.

Since the 2002 national policy shift, no policies have made a systematic or broad-scale effort to channel the resources and experimentation of states and districts toward using technology as an assistive learning tool in education to the degree that other fields and industries have used technology to enhance performance. [9]

In our current era of accountability, the only things that count are the ones that can be counted. The only way we know if we are achieving something is if it can be measured objectively. Professional development has been de-emphasized if it didn't relate to testing.

O'Dwyer et al (2005) and others have rightly critiqued studies of the impact of educational technology as lacking in academic rigor. [10] As a result, "achievement" is increasingly being narrowed to success on

standardized achievement tests in order to address the issue of rigor. The article points out, however, that these recent studies have their shortcomings as well, including:

1. weak or non-existent measures of student use of technology;
 2. measures of technology use that treat use as a unidimensional construct rather than a multi-faceted set of constructs;
 3. failure to use a measure of prior achievement to control for pre-existing differences in achievement;
 4. use of total test scores as the outcome measure rather than focusing on the sub-scores that are most closely associated with the constructs developed through a given use of technology;
 5. use of analytic methods that do not consider the multilevel structure of educational settings;
 6. use of school-level rather than student-level measures of achievement; and
 7. failure to randomly assign participants, either at the individual or classroom/school level, to control and experimental conditions.
- [11]

Measuring the impact of technology is a complex task indeed.

In O'Dwyer et al's study they purported to address each of these variables with the exception of randomizing students or creating control groups. In the end, they found that use of technology to edit papers increased students' scores on the state standardized achievement test. Oddly enough, considering Cuban's concerns, advanced typewriters improved writing. Interestingly, they also found that students using computers to create presentations or using a home computer for recreation was associated with lower test scores, especially reading.

So, one road moving us beyond the illusion to a sense of progress is narrow. The goal is to have a clear and focused connection between the tool and the learning goal. This makes sense. Using technology to edit papers helps your writing skills. However, is the conclusion that we need to reduce education to what can be measured with a multiple-choice

test? And only use technologies that can lead to clearly measured outcomes with standardized tests?

The other road is the wide, holistic path. What about creativity, critical thinking skills, problem solving, etc? Is part of the illusion our inability to see and document what we are achieving? As my experience with edutainment suggests, I wholeheartedly agree that all uses of technology are not equal in the eyes of the achievement gods. Some uses of technology can distract from learning. As O'Dwyer's group discovered, there may be trade-offs as well—students creating presentations may be developing critical thinking and communication skills, but the time it consumes may take away from developing other skills. Are we willing as a nation, as a society, to accept some of those trade-offs? What do we want of our graduates? I'm hoping it is more than the ability to bubble in "C".

What about the concerns of teachers in the NEA/AFT report? What about the persistent barriers to achieving technology's promise? Stoll ultimately contends that administrators must involve teachers in the planning and implementation of technology plans. They should allow them more unstructured time, technical support, and professional development opportunities. Suzie Boss, in a recent article in *Edutopia* [12] counters that we cannot wait for policy shifts or the pot of gold. She suggests five steps to achieving some of that potential right now:

1. Innovate with tools you already have;
2. Seek out free, easy to use digital resources;
3. Overcome your fear of the unknown;
4. Start with small, fast projects that enhance learning; and
5. Learn with your students.

The group that I work with, the Oregon Technology in Education Network, has found that small, targeted grants can do a world of

wonders in helping new teachers explore effective uses of technology in their classrooms. [13]

Malcom Gladwell's book, *The Tipping Point*, explains that change often happens quickly and unexpectedly. [14] Little changes can ultimately make a huge difference. While professional development is at the top of the list regarding why technology use in schools is not realizing the hopes of society, access is close behind. Netbooks (small, internet computers) are now at the price that graphing calculators were 10 years ago. [15] Cell phones are becoming ubiquitous and the iPhone represents a seismic shift in what a phone can do, particularly with Internet access. Are we nearing the tipping point for access to the Internet in schools? Will teachers capitalize on the resources of the Internet if it does tip?

In conclusion, I have great hopes and expectations for the next few years. While I concede that we have learned the value of focus from the NCLB years, we also have ascertained once again that reading, writing, and arithmetic are not everything when it comes to education. Both roads, narrow and wide, have their value. We need to develop new ways to demonstrate success in a variety of forms, so achievement of non-3R learning is just as valued, so technology's broad potential impact can be made tangible. On the other hand, if a richer or better educational life can be found without the technology, we need to be aware of that. A new presidential administration will also bring new emphases on the roles technology can play in schools. As the dawn of the Internet age finally reaches the classroom, access will no longer be the mantra of teachers wanting to maximize students' learning. Are we ready to see beyond the illusion of learning with technology in education? Are we prepared to make it real?

Endnotes

- [1] Cuban, L. (2003). *Oversold and Underused: Computers in the Classroom*. Harvard University Press.
- [2] Stoll, C. (1996). *Silicon Snake Oil: Second Thoughts on the Information Highway*. Anchor Books.

- [3] Stoll, C. (2000). *High Tech Heretic: Reflections of a Computer Contrarian*. Anchor Books.
- [4] http://www.techlearning.com/db_area/archives/WCE/archives/rhine.php, 1997; accessed 10/2008.
- [5] <http://www.nea.org/research/images/08gainsandgapsedtech.pdf>, 2008, accessed 10/2008.
- [6] NEA/AFT report, p. 20.
- [7] NEA/AFT report, p. 22.
- [8] Jones, S. (2006). *Against Technology: From Luddites to Neo-Luddism*. Routledge.
- [9] NEA/AFT report, p. 23
- [10] O'Dwyer, L. M., M. Russell, D. Bebell, and K. R. Tucker-Seeley. 2005. "Examining the Relationship between Home and School Computer Use and Students' English/Language Arts Test Scores." *The Journal of Technology, Learning and Assessment*, 3 (3).
- [11] O'Dwyer, et. al., p. 36.
- [12] Boss, S. (2008). "Overcoming Technology Barriers: How to Innovate Without Extra Money or Support"
<http://www.edutopia.org/technology-how-to-implement-classroom>, 2008, accessed 10/2008.
- [13] <http://www.oten.info/grants/minigrants.html>
- [14] <http://www.gladwell.com/tippingpoint/index.html>
- [15] http://cnettv.cnet.com/9742-1_53-50003413.html?tag=api